

INFORMATION REPORT

CONFIDENTIAL

CD NO.

DATE DISTR. 15 MAR 51

NO. OF PAGES 3

NO. OF ENCLS.  
(LISTED BELOW)

SUPPLEMENT TO  
REPORT NO.

File  
104

COUNTRY Yugoslavia

SUBJECT Bauxite Industry in Yugoslavia

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CLASSIFICATION  
ACQUIRED  
DATE OF  
INFO.

1. Bauxite is found in the caraic areas along the whole length of the Dinaric mountain range, stretching from Istria to Montenegro. The quality of the bauxite varies: good bauxite is found in Istria, Dalmatia, and Hercegovina, and low grade bauxite is found in Lika and Montenegro.

2. Before the war, the low grade was not exploited, but now, because of the world shortage of aluminium and the research work of Dr. Karsulin, A. Tomic, and A. Lahordny, low grade bauxite fields are beginning to be exploited.

3. The average composition of good quality bauxite in Yugoslavia is:

Aluminium oxide - $Al_2O_3$	50 to 65 percent
Ferrous oxide - $Fe_2O_3$	15 to 25 percent
Silicate di-oxide - $SiO_2$	1 to 4 percent
Titanium di-oxide - $TiO_2$	1 to 10 percent

Production of aluminium, through the Bayer process, with Lika and Montenegrin bauxite is often impossible because of the low content of  $Al_2O_3$  (below 40 percent) and high content of  $SiO_2$  (over 40 percent) and caolin.

4. Istria bauxite fields: Bauxite is found between Umago and Labin, and in the islands of Cres and Losinj. Most of the bauxite is found in small concentrations in valleys and hollows, especially in the areas around Labin, Barbara, Sveta, Medelja, Vizinada, Motovuna, Zminja, Porec and Buzet. The depth of Istrian fields varies from 10 to 15 meters, length and breadth from 80 to 100 meters, and bauxite contents from several hundred to three or four thousand tons. The bauxite is suitable for aluminium production and consists of 50 to 57 percent  $Al_2O_3$  and 3 to 5 percent  $SiO_2$ . Lower grade bauxite is used by the cement factory in Pulj. Transportation facilities are good, and will be even better when the new Lupoglav-Stalije railroad is completed. Before the war, Istria produced 300,000 tons of bauxite.

5. Lika bauxite fields: Until recently little importance was attached to Lika bauxite because of its high  $SiO_2$  content. The most important fields are: Grgin Brijeg near Gospić, Vratca near Gracac, Rudopolje near Vrhovina, and the area near Skoca on the Bosnian frontier.

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Next Review Date: 2008

Document No.	9
No Change in Class.	<input type="checkbox"/>
Class. Changed To:	TS
Auth:	RR 71-2
Date:	25-6-78

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- a. Grgin Brijeg is the largest field. An idea of its size is given by the fact that it includes a hill 250 meters high, covering an area of several square kilometers, composed almost exclusively of bauxite, red-yellowish in color.
  - b. The Vratca field is about 500 meters in length and is 150 meters in depth. The bauxite is a mixture of red and white.
  - c. The Rudopolje field covers an area of six square kilometers.
  - d. The Škeca field has not yet been properly exploited.
6. The Dalmatian bauxite fields: The best quality and highest quantity of bauxite in Yugoslavia is produced in Dalmatia. Bauxite is produced on the islands of Cres, Lopari, Rab, Hvar, Pag, and Solta, and on the mainland, between Velebit and Imotski at Obrovac, Kistanj, Drvenik, Čkalaj, Knin, Kalum, Umac, Drnis, Skradin, Muc, Sinj, and Imotski. The main centers are at Drnis, Imotski and Drvenik. Production centers are served by the Drnis-Velusic and Split-Sinj railroads. Bauxite reserves are now reported to be 20,000,000 tons.
7. Bosnia bauxite fields: The two most important fields are located near Bihac and Bosanska Krupa respectively. Two new fields of some importance have recently been discovered near Jajce and Bepelje (sic). The transportation of Bosnian bauxite to the sea has been considerably facilitated by the construction of the new Bihac-Knin railroad. Transportation to the Strnišće plant near Ptuj can be effected by normal gauge railroad.
8. Hercegovina bauxite fields: Bauxite deposits in Hercegovina are much richer than in Bosnia. Quality is also good and suitable for commercial production of aluminium. The main fields are:
- a. Donanovic, on the left bank of the Neretva River. Reserves are estimated at 250,000 tons. Quality is poor, the  $\text{SiO}_2$  content varying between 10 and 12 percent.
  - b. Citluk, on the right bank of the Neretva River. The fields cover an area of over 50 square kilometers, and include 15 major mines. The largest mine is located at Gornje Blatnica. Reserves total over 22,500,000 tons.
  - c. Siroki Brijeg and Kocerina: The fields extend alongside the Mostar-Poduzice road between Knez Polje and Kocerina, south of the Ugrovec River. They include ten major mines which, before the war, produced some 200,000 tons annually. The best bauxite is mined near Siroki Brijeg, where reserves exceed 900,000 tons. Deposits lie close to the surface and are therefore easily mined. Composition of average quality bauxite in this area is:  $\text{Al}_2\text{O}_3$  up to 60 percent;  $\text{Fe}_2\text{O}_3$  up to 27 percent;  $\text{SiO}_2$  up to one percent.
9. Montenegro bauxite fields: Montenegrin bauxite is red and white in color, containing either too much or too little  $\text{SiO}_2$ . White bauxite is mined because it contains montmorillonite useful to the ceramic industry. The main fields are as follows:
- a. From Risan and Zelenika near Kotor to Ulcinj. The most important mine is at Dobra Voda, seven kilometers from Ulcinj.
  - b. Area from Niksic to Bileca, on Trebinje-Foca road, and includes the important Bijele Poljane and Carev Most mines. A road, 15 kilometers long, is being built between Bijele Poljane and Niksic for the transportation of bauxite.
10. Slovene bauxite fields: Exploitation of the Slovene bauxite deposits will not begin to any extent until the Strnišće aluminium plant is completed. At present production is limited to the following fields:

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- a. Mozirje-Velenje, with mines at Sistanj (sic) and Topolseica.
- b. Kamnik - very limited quantities.
- c. Bohinj Lake area - very limited quantities.

11. Production: Pre-war figures for Yugoslav production of bauxite were:

1935	-	165,490 tons
1936	-	245,685 tons
1937	-	353,000 tons
1938	-	411,000 tons
1939	-	443,000 tons
1940	-	475,000 tons

The pre-war average figure for Istria was 351,000 tons. Yugoslavia should, with little capital outlay, be producing at least 826,000 tons of bauxite per year, of which at least 743,400 tons should be available for export.

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